

The Long and Winding Road

My journey of exploration and refinement

I started my journey into higher education at a very busy time in my life. I was about to enter my fourth year of teaching at a brand new school, teaching two courses I had never taught before. In addition I had a two year old and an eight week old. I was told by many that this was not a great time to begin my studies, but I was at a point in my career where I needed to develop my skills and refine my practice. I have never been a person who shies away from a challenge so, despite the advice to slow down, I went full speed ahead into the Master's of Arts in Education program at Michigan State University. Three years later, as I am wrapping up with my formal education and preparing for graduation, my life has not slowed down at all. In fact, I would say I am busier now than I was then. I am very glad that I began my pursuit of education when I did, as it has shaped me into a better teacher and a more confident person.

My experience at Michigan State has been filled with moments of excitement, stress, realization, and refinement. I have learned so much about how to be a better teacher, how to enhance my relationships with my students and how to integrate various practices into my teaching style. Through my work in the master's program I began thinking about, and approaching my work very differently. I started to be more aware of the interactions that I was having with my students and thinking about those as a component of bigger picture. During my first year, which was heavily focused on science education, I began to be much more aware of the role of inquiry and exploration in my teaching. Once I began my to focus more on the integration of technology I began to think about how I could meaningful use technology and how I could teach my students the skills they needed to successfully use technology in a professional way. I also started to think more critically about my role in teaching literacy strategies. Throughout my time in the program I have done a considerable amount of reflecting and refinement of my ideas and teaching practices. I have worked hard to improve on practices that I was already engaging in and build on those with the knowledge I gained while studying at Michigan State.

The first portion of my studies was focused on fulfilling the science component of my master's program. I took several classes that focused on science education and really challenged the way I approached teaching my subject. Through my studies in TE 861A and 861B I began to develop a much deeper understanding of the Next Generation Science Standards (NGSS) and how I should be using them to guide me in facilitating more inquiry in my classroom. In TE 861B I began explored the NGSS, which was a very new concept for me. I dove deep into the exploration of this, which laid the base for my current work in curriculum development and the redesign of my courses.

With the focus of the NGSS on inquiry, this course also pushed me to think more critically about how I can incorporate more inquiry in my lessons. Whether through a small activity or an entire lesson, I learned a variety of techniques to more easily build inquiry into my curriculum.

Through my explorations in TE 861A I built on the ideas that I learned in TE 861B. I learn a variety of methods to assess exploration through inquiry. The course helped me to structure my inquiry activities so that I could better assess student understanding and comprehension using inquiry activities. Prior to this course I had thought about inquiry activities and assessments as separate activities. I had not made such a strong association between the two things until this course helped me to see the essential connection between them. After the completion of this section of my program I made substantial changes to the way I approached curriculum planning and assessment. I started replacing as many activities as I could with inquiry based activities, working hard to add inquiry based activities to my plans each semester. I have built my curriculum around many inquiry exercises and now do at least one laboratory investigation a week along with several other smaller inquiry activities. I have also modified my assessments to include questions from the activities and many references to the content covered with an inquiry based approach. I continue to work on adding additional inquiry activities, especially as I work towards my goal of full NGSS implementation by 2019.

One of the cornerstones of my studies at Michigan State was my work in the educational technology program. I had previously done very little in terms of incorporating technology into my classroom. I had not even taken my students to the computer lab in my first three years of teaching. Once I began studying the use of technology in teaching I started to really reflect on how I could use technology to make my teaching easier and, most importantly, to enhance my students experience. One of the courses that really helped me rethink how I incorporate technology in my classroom was CEP 811, Adapting Innovative Technology to Education. This class really encourage me to think about how I was using technology and see how powerful technology can be in helping students learn. It challenged me to push my technology integration beyond just modifying everyday tasks into a mindset of using technology to enhance my practice. CEP 811 helped me to see the power of creatively exploring through technology and the benefit of giving students freedom to explore. I have worked hard to incorporate these ideas into my instruction and they have become second nature to me. As a science teacher I took these ideas and applied them to my teaching of exploration and inquiry. This class was pivotal in helping me to deepen my understanding and appreciation for creative play and exploration. I continue to look for ways to incorporate this into my classroom. I have worked extensively on finding a balance between guiding my students and giving them the freedom to explore. I

continue to work on refining this and understand that this will probably always remain a “work in progress!”

Another class that was influential in the way I think about technology was CEP 810. This class allowed me to think critically about the learning process and about how students engage with technology. Through the learning project I gained knowledge about the process that my students go through when they are asked to use technology as a mode of learning. This class was important in helping to shape my thinking because it really challenged me to experience the process of using technology as a mode of learning from my students perspective. This prompted me to reflect on ideas about how to more effectively guide my students use of technology in and out of the classroom. Since the completion of this course I have continued to think about the integration of technology from a student centered perspective. I continued to think about how my students may be processing the content and working through the task. I have also kept these concepts in mind as my students work through scientific processing skills. This class was extremely helpful in pushing me to develop my ability to be metacognitive. I now spend a considerable amount of time thinking about the learning process and how technology has changed the way students think through the learning process.

Overall my technology courses have had a profound impact on how I approach teaching and how I interact with technology in my classroom. The program has helped me to gain confidence in many specific areas of technology. I have worked on website design, the creation of videos through multiple applications, screen-casting, creating infographics, and the development of course management systems. In addition I am more confident in teaching my students about emerging technologies. I pick up more easily on how to efficiently use various applications and now think more about how to incorporate these applications into my classroom practice. Some of my changes have been simple modifications of daily tasks; however, I appreciate the convenience and added value that the technology gives me. One example of this is my integration of Zipgrade. I have switched to using this application for grading my multiple choice tests. The application uses an iPad or phone to scan and grade tests. The benefit of this application is that students can see right away what problems they got wrong. They really enjoy having their test scanned and it helps to open up dialogue about mastery and growth in a timely manner. Other services have allowed me to enhance my students learning experience in many different ways. I currently only have access to computers about once a week, but am excited that I will finally getting my own class set of devices shortly. Once I have full time access to technology I will continue to integrate it in a meaningful way. I excited to experience the changes in my students as I continue to use technology to increase inquiry, investigation, and assessment. These changes are directly due to my studies in the educational technology program.

The final area of growth that I experienced while working on my master's degree came from required program classes outside of my two focus areas. Perhaps the most influential course I took was the state required reading course, TE 846, Accommodating Differences in Literacy Learners. I was a bit hesitant when this course started. I had heard some negative feedback from colleagues who completed the course at other schools and was unsure of the value of the course. I've always understood that teaching literacy is the responsibility of all educators, but I felt I was lacking in the skills to engage in literacy instruction in a meaningful way. Throughout the course I was fascinated by the information and strategies that we studied. I found myself quickly integrating these strategies into my classroom. It was comforting to have a more clearly defined idea of exactly how much time I should be devoting to literacy and to take that information and integrate it into my teaching practice. After the completion of this course I began to look for more ways to incorporate literacy two or three times a week. There are several things that I have done that have been beneficial to helping my students enhance their literacy skills. One strategy that I transitioned to was having my students complete written lab reports and not just answer a set of questions. For larger investigations, I provide them with a template and ask them to write about what they learned. I give them structure so they touch on the key points such as: the question we are investigating, a hypothesis, experimental design, experimental data, scientific conclusion, analysis, and scientific errors. They have to design and conduct the experiment and compile their information into a report. This activity helps my students to be more inquiry driven and it also allows them the opportunity to enhance their literacy skills. The strategies I learned while enrolled in TE 846 have allowed me to more consistently and meaningfully incorporate literacy into my practice. I continue to grow in this area and work to add more reading opportunities. I am excited to see how this area of my teaching will continue to evolve.

My time at Michigan State truly lead me to some important realizations. It has been essential to the development of my teaching practice and helped me to fill in many of the gaps I felt I possessed because of my nontraditional training. My studies have helped me build on and strengthen previously practices and given me the confidence to implement these ideas in the classroom. I am excited to be moving on from my graduate school journey with so many tools and strategies. The knowledge that I have gained during my three years at Michigan State has helped to reignite my passion for learning, for teaching, and for exploring new ideas. As I end my formal education I cannot wait to see what is next. I can confidently say that I would not be the teacher I am today without the encouragement, support, and challenges I received during my time in the program.